NETTS PROJECT/DEMONSTRATION SUMMARY

Title: Ecological Risk Screening of
NEX MTBE Plume
NCBC-30-98

Lead PI/Affiliation: NFESC

Date/Duration:
Initiated - 04/98
Completed - 09/98

Abstract:
The objective of Ecological Risk Assessment (ERA) is to employ available chemical, toxicological, and ecological information to estimate the probability of undesirable ecological effects and to provide a systematic means of balancing and comparing risks associated with environmental problems. ERA refers to a quantitative and/or qualitative appraisal of the actual or potential impacts of a hazardous waste site on plants and animals, other than humans and domesticated species

Ecological risk assessments, at any level of effort, have at least two phases: 1) the first requires a conceptual understanding of the environmental problem; 2) the second requires quantification of spatial and temporal variances in exposure to the hazard. A three-tiered or phased approach is used.

Tier 1 involves a literature study, historical site information, existing field data, literature and output from fate and effects models, and previous field surveys on the biota (including endangered and threatened species). Measurement endpoints rely on available data with underlying conservative assumptions and infer protection for assessment endpoints. These data and results are used to develop preliminary hazard indices (risk quotients). The purpose of higher tiers is to address data gaps and reduce uncertainty in the risk characterization and lessen the need for the use of conservative assumptions.

The objective of this screening assessment was to determine whether the MTBE plume poses a potential risk to the ecosystem. Potential exposure pathways and receptors were evaluated, and an ecological effects evaluation was completed.

From late 1984 to early 1985, approximately 10,800 gallons of gasoline leaked from two storage tanks and piping under the Naval Exchange (NEX) gas station at the Naval Base Ventura County Port Hueneme Site (NBVC). Since 1985, the Navy has taken actions to prevent any further damage to the environment from the leaks. The MTBE remediation technologies demonstrated at NBVC Port Hueneme Site are part of the overall strategy in the NEX Plume Management plan for containment and control of the plume to prevent any further damage to the environment.

Results/Conclusions:
The results of this screening assessment indicate that the MTBE plume on this site poses little or no ecological risk. Even with the extremely conservative assumptions that were employed in this screening, no adverse effects to ecological receptors are anticipated.

Publications:

1) Hunt, L., "Ecological Risk Screening of MTBE Plume at the Naval Exchange Gasoline Station, Naval Construction Battalion Center, Port Hueneme, CA," NFESC Special Report, August 1998.